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ABSTRACT

In an effort to integrate existing data into decision-making processes, the School of Education at the University of Pittsburgh (Pennsylvania) began development of a comprehensive set of databases to be used in planning and administration. University strategic planning had begun in 1975 and continued with new impetus and revisions in 1984 and 1989. An initiative for more focused strategic planning was undertaken in response to the sense that despite years of planning, units were still adrift without apparent direction, plan, goals, or vision. The School of Education created a school-wide planning committee and established a mechanism for evaluating its 15 academic programs: The Academic Priority Report. This mechanism involves a summary of ongoing planning, discussion of mission and objectives, program priorities, criteria for program review, and recommendations for long range strategic planning. A planning database that included 14 types of data was developed and became important to the planning process. The new planning process has relied increasingly on the use of data and the inclusion of faculty, staff, and students in decision making. The whole process has yielded a rating scheme to meet university planning requirements, new program proposals, decisions to gradually close some specialties, a strategic plan for faculty, and a recommendation for re-orientation of the program in instructional design and technology. (Contains 12 references.) (JB)

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ED 390 367

OPENING UP THE UNIVERSITY BUDGET AND PLANNING PROCESS

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The *University of Pittsburgh*, founded in 1787, and with a current student body of approximately 30,000 (18,250 undergraduates and 9,725 graduate students) and more than 2,600 full-time faculty, has a well established reputation for its comprehensive and internationally oriented research, teaching, and project activities. These goals have been developed and pursued by the University over several decades beginning with Chancellor Edward Litchfield, in the 1950's and 1960's, who first recognized the international opportunities that institutions like the University of Pittsburgh could play

The University of Pittsburgh is a large urban research university offering a broad range of undergraduate and graduate degree programs in the professions and the disciplines of the Faculty of Aarts and Sciences. Professional schools includes medicine, dentistry, public health, pharmacy, health related professions, law, business, engineering, education, public and international affairs, social work, and library science. The main campus of the university, located in the City of Pittsburgh, enrolls 18,700 full-time (13,500 undergraduate; 5,200 graduate) and 9,400 part-time (5,000 undergraduate; 4,400 graduate) students. The university is a state-related institution and receives receives about 20% of its total operating budget from the State.

The *School of Education* is made up of four academic departments, employing more than 150 faculty members, about 60 of whom have international experience. It is almost entrirely a graduate institution, including the post-baccalaureate proparation of teachers. The School prepares a number of education professionals, including researchers, psychologists, counselors, planners, evaluators, and certification of public school teachers, administrators, counselors and supervisors. Most certification programs are at the post-baccalaureate level with about 100 tenure stream faculty serving approximately 1,800 graduate students, 1,300 of whom are part-time.

Paper prepared for the 19th Annual Meeting of the Assocaiation for the Study of Higher Education, November 10-13, 1994.

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Introduction to the Problem.

Those charged with educational planning and administration in colleges and universities are increasingly faced with the need to integrate existing data into the decision-making process (Norris and Poulton, 1991). With greater reliance on computerized databases, it is generally assumed that data-based decision making would become routine. In 1986 the School of Education (SOE) began development of a comprehensive set of databases to be used in planning and administration. In this paper, important aspects of that development process and subsequent uses of the databases in a university-mandated planning process are described and problems that were encountered are identified.

Developing a Framework for Database Planning.

1) The beginning points for planning in an organization are defining the primary purpose of the organization and determining the type of organization. These are critical first steps of planning. All subsequent planning should compliment the basic purpose of the organization, and all development and implementation should respect and accommodate the type of organization in which it occurs.

2) Once the type and purpose of the organization are defined, the second step in support of planning efforts is to utilize technology to provide the required information. The mechanism used to provide and manipulate this information is a database. Brainwaite defines a database as a collection of interrelated data items processed by one or more application systems. The database permits common data to be integrated and shared between corporate functional units and provides for flexibility of data organization (Brathwaite, 1990).

3) Once the databases are agreed upon and the task of gathering the data is completed, the data can be utilized to assist in support of the planning efforts. Data integrity is crucial in this step. All efforts should be made to ensure that accurate information is going into the database and data definitions are clearly defined so there are no ambiguities about the output.

University Planning Efforts: Historical Background.

The formal process for the University's strategic planning began in 1975. This process was developed to integrate planning, budgeting, and evaluation of academic and administrative units. The model followed a rational/technical model of planning which emphasizes planning as being expert driven. It sets limits on the number of quantifiable variables and tends to view higher education decision making as linear in nature. In 1976, the Board of Trustees approved the *University Plan*, a comprehensive strategic planning document which outlined the mission, goals, and programs of the University (University of Pittsburgh, 1976, 1978).

In 1984, another planning process with the objective of creating a new strategic five-year plan was initiated. The scope of the planning process was increased by a new

Provost, and the objective of this exercise was to set University priorities for the future. Each of the units, including the School of Education, developed mission statements, determined quality and centrality of programs in reference to their mission, and ranked their programs in terms of cost effectiveness and comparative advantage.

The next phase of planning effort was initiated in November 1989 (University of Pittsburgh, 1989). Unlike other planning efforts, that occurred in the context of either University growth/expansion or level funding, this effort occurred in a time of decreasing resources. The Provost directed all Deans, Directors, and Regional Campus Presidents to develop specific unit priorities based on the following set of planning criteria:

1. Centrality of unit to the University's mission;
2. Comparative advantage of the unit to other similar units in other institutions;
3. Quality consideration of the units considering quantifiable measures for faculty, students, and programs;
4. Cost effectiveness of the unit in comparison to other units;
5. Productivity indicators for faculty to include teaching and research;
6. Student demand for unit programs;
7. Evaluation of public service evaluation of the programs within the unit;
8. Societal need of the unit and programs considering national, state, and regional parameters.

University Strategic Planning Efforts. The system was established under the impetus of the University Senate because of the perception that despite years of planning, units were still adrift without apparent direction, plan, goals, or vision. These were years of incremental budgeting--everyone got a little more each year, the good and the bad, the relevant and the irrelevant, the efficient and the inefficient, the competent and the incompetent. The university seemed to change very little, and what changes there were seemed to reflect the desires of a person in power rather than the needs of the university. The proposed planning process was to incorporate input for all constituencies and thus the senate hoped to accomplish three objectives:

1. Make the process of allocating resources more open, rational, and objective;

2. Define goals and directions for the university in order to concentrate on the best and eliminate the things done badly or not needed;

3. Prepare for changes in society, in the region, in technology, in profession practice, and in the students. The university was clearly living in a world of rapid change in which those who fail to plan fall behind.

The development of the new planning and budgeting system began with discussions between the Chancellor and members of the University Senate. The Chancellor's office agreed to work with the Senate to examine the possibility of setting up such a system. This started in 1990 and the outcome is the establishment of planning and budgeting committees at three levels: university, provost, and school. Each group has essentially the same responsibility, appropriate to the level. They are all advisory, but in each school, the Dean must receive the recommendations and if there is not agreement, send them on to the Provost (along with the Dean's decision) explaining the disagreement.

School of Education Planning Efforts.

In response to the President's planning directive and a more focused initiative as outlined by the Provost, the School of Education created a School-wide planning committee. This effort under the leadership of elected faculty, was assigned the task of creating the School's plan and establishing the mechanism whereby the School would be able to evaluate its fifteen academic programs in the context of the Provost's planning criteria. Their efforts resulted in the *Academic Priority Report* (University of Pittsburgh, School of Education, 1990).

Academic Priority Report.

This document is the product of a four year, broad based faculty, staff and student planning process that included the efforts of program and department level planning groups, the school-wide Planning Committee, the elected Faculty Council, the Executive Administration Committee of the School of Education, and the elected Planning and Budgeting Committee of the School. As described below, it contains: 1) a brief summary of the history of the on-going planning process in the School of Education; 2) a discussion of our mission and objectives as they relate to a vision for the School of Education; 3) the academic program priorities for the School of Education; 4) criteria for continuing program review, and 5) recommendations for continuing long range strategic planning.

1) Recent History of the School of Education Planning Process.

In 1986, a two-year, faculty-based planning process culminated in a major reorganization plan for the School of Education that was implemented over the succeeding five-year period. Fifteen somewhat independent departments and programs were realigned and merged to form three academic departments (Administrative and Policy Studies, Instruction and Learning, and Psychology in Education) and two research and development institutes (Institute for Practice and Research in Education, and Institute for International Studies in Education). Faculty contracts were reduced from three term appointments to two term appointments. A major change in faculty resources occurred as a result of this reduction in length of faculty appointments as well as buy-out agreements, early retirement incentives and normal retirement losses. While

reducing the number of senior faculty, 17 new junior-level, tenure stream faculty appointments were made. This change in faculty from 1986 to 1991 resulted in a reduction in the total FTE faculty from 213 to 141 (34%) accompanied by a reduction in the School's student credit hour generation from 43,090 to 37,272 (14%) (University of Pittsburgh, School of Education, 1986).

Departmental and academic program modifications necessitated major curricular redesign and development, thereby affecting student recruitment efforts and student admissions patterns. The School also developed and implemented a fifth-year post-baccalaureate model for teacher certification.

During the 1990-91 academic year, a faculty planning committee completed a self-appraisal document that: (a) described accomplishments of the previous five years, (b) specified a mission statement and goal orientations for the coming five years, and (c) identifying current strengths and constraining factors affecting the School's pursuit of these goal orientations. The following year (1991-92), using criteria provided by the Provost's Office, faculty, staff and students reviewed specific data operationalizing these criteria as well as additional information to generate program priority statements. The Planning Committee, using the same criteria and data, reviewed program responses, and reports from the Department Chairs to develop a document recommending academic priorities for the School of Education. The Dean, at this time, also identified his own priority profile for the School (University of Pittsburgh, School of Education, 1991).

2) Mission of the School of Education.

The dual mission of the School of Education is to prepare selected educational professionals at a high level of quality in a research university environment, and to foster the scholarly pursuit of educational knowledge through outstanding teaching, research, and service. To accomplish this mission the School has identified six goals:

a) to increase research and the generation of knowledge to enhance educational practice;
b) to identify and educate selected students to become outstanding practitioners in the education professions;
c) to focus on quality urban education and diversity issues within the Commonwealth of Pennsylvania and the Pittsburgh urban area;
d) to significantly improve research, technical assistance and curriculum development in international education;
e) to work collaboratively with schools and educational agencies as an appropriate venue for preparing educational professionals, conducting research, and providing improved educational services;
f) to provide outstanding leadership for the development of successful educational strategies and their implementation in the curriculum of both higher and basic education.

To accomplish these goals, the School of Education has embraced a vision of the future shaped by an understanding of past experiences and accomplishments; a recognition of present constraints, realities, and opportunities both within the University and within the School; and an acceptance of an uncertain future, in which education will doubtlessly play a critical role. Our vision of the future sees the School of Education focused upon collaboration with communities in the public and private sectors to address the critical educational demands of the region and the nation that are ever-changing, becoming more complex, and more diversified as they grow in response to an increasingly complex and diversified society. Collaboration with these communities will enable us to accomplish our goals and mission and to make significant contributions to improve the quality of life in Pittsburgh and throughout the region, as well as providing a research base for wider dissemination of new knowledge.

3) Academic Program Priorities

Given the context of the dual mission of the School of Education, its articulated objectives and its vision of the future, the academic programs of the School were placed in one of four priority categories. The categories represent priority for resource allocation as needed, to insure that programs continue to function in the most effective way possible for the School to pursue its mission.

The School's planning process was guided by the School's mission statement, goal orientations, the Provost's criteria (quality, centrality, societal need, cost effectiveness, productivity, student demand, instructional support) the statements of program faculty, reports by department chairs, recommended the placement of programs in the priority categories. Given all source documents and criteria utilized in the establishment of the priority categories, program placements in this document are heavily influenced first by quality, second by critical need for additional resources, and third by centrality to the professional development mission of the School and the current societal needs in public basic education. Additionally, it should be noted that further delineation of priorities may be necessary, particularly with respect to those programs placed in the third and fourth priority categories. The continual monitoring of the implementation of this plan and the ongoing planning efforts of the PBC should provide the mechanism for the continuous delineation of the School's priorities.

4) Criteria for Continuing Program Review.

Always the goal must be to maintain and improve top quality programs. This requires that a current and appropriate strategic plan must always be in place. Such a plan depends upon continual program review to re-orient our offerings to changing societal and educational needs. The following criteria will continue to be used in ongoing planning efforts to guide decisions regarding changes in academic programs, with QUALITY being the most important criterion. Provost criteria was operationalized in context of School of Education planning efforts.

a) QUALITY: High quality programs have faculty who are widely recognized as leaders in their fields, who contribute frequently to the research and scholarly foundations of their specialties, and who are excellent mentors and teachers of educational professionals. High quality programs attract, retain, and graduate well-educated students who are recognized by others outside the University and who become leaders in the field in their own right.

b) CENTRALITY: Programs that are highly central to the School of Education provide the services, courses, programs, and/or human resources that are directly needed by the School to fulfill its mission of preparing educational professionals and fostering the scholarly pursuit of educational research and the generation of knowledge which can enhance education. Preparation and certification of education professionals are examples in the School of Education.

c) SOCIETAL NEED: Programs that are highly needed by society provide the education of personnel, the resources, and/or the knowledge that address critical problems in education, the community, the Commonwealth, the Nation, and/or other countries. These programs attract, retain, and graduate more women and minority students, especially African Americans. These programs exhibit that they address needs of the international community by attracting, retaining, and graduating more international students. Programs that prepare teachers, early childhood professionals, and counselors are examples.

d) COST-EFFECTIVENESS: Highly cost-effective programs generate relatively large amounts of credit hours at a relatively low cost. They produce relatively large amounts of income from external funds that go toward the support of students, staff members, and faculty members. They can demonstrate their significant contributions in reducing the gap between the School's expenditures and its revenue. In this School, K-12 administration and teacher certification are examples.

e) STUDENT DEMAND: Programs in high demand have relatively large numbers of applicants for admission. They offer courses that have relatively large enrollments by students both from within and outside the program. The demand is such that usually a relatively small percentage of applicants are selected.

f) INSTRUCTIONAL SUPPORT: These are programs that greatly support the instructional missions of the School of Education and the University. Such instruction is a necessary supporting foundation upon which further instruction is built. The Basic Areas of Education (BAE) courses are examples.

g) COMPARATIVE ADVANTAGE: Programs that have a high comparative advantage and are not duplicated elsewhere within the University, Western Pennsylvania, the Commonwealth, or the tri-state area, or, if duplicated are of exceptionally high quality or make unique contributions. Movement Science is an example.

Sources of Data: Planning the DataBase. An important factor which influenced the planning process was the further development and utilization of the planning database. The database became important in terms of baseline data, and had developed to a point where it could be used in developing attribution models to assist in the evaluation of the academic programs. With the inclusion of new constituencies in the planning process (staff and students), new challenges in terms of utilization of data arose. Issues such as "confidentiality" and understanding of the academic enterprise soon developed and had to be the subject of prolonged discourse.

Early in 1993, the PBC began to meet and to decide direction, leadership, process, and goals of the PBC. After that began the examination of data that would be helpful to the process. It was clear that data would not be the sole criteria for making decisions, but evaluation of data would be necessary to make sound academic decisions. Basing decisions (which are after all evaluative judgements) on data allows one to respond to the question, "on what did you base that recommendation?"

The basic unit of measurement was faculty and student, but data were aggregated to the level of department or program (a sub-specialty of department). Available data included the following, in various degrees of precision:

1. Number of faculty and fte (full time equivalent)
2. Faculty salaries + fringe benefits (33%) full and part time
3. Cost of goods and services; also staff
4. Number of students enrolled in the program, by full and part time, degree level, and instate or out of state
5 Income generated by students
6. Scholarly productivity of faculty as measured by journal articles, books, book chapters, professional presentations
7. Student credit hours (SCH) generated by program each term
8. Soft money income (research grants, gifts, earned income)
9. Report of a previous committee which evaluated programs
10. Interviews with department heads, who were asked to check our data on their departments and to estimate the relative quality of their several programs
11. Number of applicants, admitted, and enrolled by program, and the test scores of each group
12. Number of grant applications by faculty
13. Student awards, grants, papers, research
14. Other evidence of quality, such as accreditation, external recognition, placement of graduates

These data were then distributed to the committee, studied, and discussed within committee and with department heads. Many hours were spent over the year, reviewing, evaluating, and relating data. The new planning and budgeting system required a priority of programs, from those to keep, expand, or start new, to those that should be disbanded.

It should be noted that this process is one that academics dislike and will avoid at every opportunity. Unlike the previous planning processes, this process relied increasingly on the utilization of data and the inclusion of faculty, staff and students in the decision making process.

Also, U.S. universities have large administrative structures, and power and budget control reside in the central administration. As compared to European universities, the schools are relatively weak and the presidents strong. In the University of Pittsburgh, for example, the central administration decides what budget schools will get, controls faculty positions, and approves changes in degree structures, including the initiation of new departments or the demise of old. Thus it became clear that a refusal to participate in the planning process altogether, or a refusal to prioritize would simply put the decisions more firmly in the hands of central administration.

Applying the School's Database to the Planning Process.

In order to operationalize the Provost's criteria in terms of possible outcomes that might draw on existing data, each criterion is examined against the information in the databases available to the administration and faculty of the School of Education. Specifically, the criteria are examined to determine which might best lend themselves to quantitative analysis. For example, to operationalize and measure "cost-effectiveness", salary data from the financial system is compared with student credit hours generated as derived from the School's Student Records System. The outcome provides a "cost per credit hour ratio", which could be used as one measure of the School's efficiency.

As illustrated below, the four major problems were encountered in the database development:

1. Standard methods for designing a database from identified outcomes are not applicable to an academic environment, since higher education is characterized by "a fluid" process and design that makes the identification of necessary output difficult or impossible to predict (Baldridge and Deal, 1983).

2. The database must be designed to account for various educational outcomes that may be vaguely defined, such as societal need, contributing to the knowledge base, etc. .

3. Decision making occurs at various levels, so each database must be flexible enough to satisfy the informational needs of personnel at different organizational levels.

4. Data must be transformed to address the various types of organizational functions, such as (e.g., fiscal, academic, administrative, evaluative, planning, public relations).

The process of operationalizing the criteria required that data closely related to the criteria be selected; some data elements could be used for multiple criteria. In some cases, it was extremely difficult to define a criterion such as "centrality" in quantitative terms. Centrality is much easier to define in the context of an institution's mission statement than to define it in the narrow limits of an operational database.

Further complicating the picture is the case when data elements have different definitions depending upon the database and the content in which they are used. For example, enrollment data, which should be a precise, fundamental measure in an academic environment, may have different interpretations depending upon the data system. Academic enrollment data and fiscal enrollment data measure the same variable--students--either by headcount or full-time equivalent (FTE). In an academic database, enrollment may be defined in terms of number of students in programs or classes. In a fiscal database, enrollments may be defined in terms of students who have "paid" or "not paid", or may be a financial consideration in terms of income generated by specific criteria, e.g., differentiated rates for in-state vs. out-of-state students or graduate vs. undergraduate students. In order to utilize data from different operational databases in a decision making context, it is imperative that both the designers and the users of the database are cognizant of these issues and make every effort to understand the "actual" and "intended" meaning of the elements in the database. Documentation of the data definitions are critical in analyzing the outflow of data (Hill, 1990).

Defining outcomes in an educational environment is difficult at best. Translating these outcomes into an encompassing mission and/or goal statement provides ample opportunity to lose their original meaning. Successfully interpreting these statements within the operational constraints of a database is problematic by design. The problem is one of fitting a square peg into a round hole. Mission statements are written to serve institutional aspirations. They are reflective of the political realities which surround the planning process. The realities of institutional survival and growth may not be congruent with a mission statement. This problem of inconsistency between the written word of an institution's mission and the realities of the institution, creates a very difficult environment in which institutions must attempt to operationalize a planning database.

Results. The deliberations resulted in a ranking scheme which seemed appropriate and met the requirements of the university (University of Pittsburgh, School of Education, 1994; University of Pittsburgh, 1992). Politically, the rankings were of mixed benefit to the faculty. On the one hand priorities were required, and indeed such a process was necessary in a university striving for excellence. On the other hand, there was no need to sacrifice the school to the central administration needs to cut budgets and take away resources. A middle position was to maintain that the programs stated to continue, are quality programs but they have different needs and time frames. Also developed were new proposals as well as two programs that need an immediate infusion of resources. In practice this means that any faculty resources freed up or newly acquired will go to these programs first, before all others. Quality programs that are essential to our

mission and should continue, with very little investment needed in the short term were second in priority. Programs that are third in priority for new resources may need to be re-configured or otherwise changed in some way as the opportunity presents itself. For example, the departure of core faculty would be a critical event that would trigger a re-examination of the program.

The fourth priority proposed to gradually close four specialties. Two of these planned to close in any case. In the case of the other two, it became clear during the deliberations that they were really not programs that could be supported over the long run for reasons listed under criteria.

In addition to the setting of faculty direction through the priority listing, which basically made clear academic areas of highest importance, and those lowest, the report set forth a strategic plan for the faculty. These included:

1. A need for continual planning, for all plans get out of date quickly, and new competitive opportunities open quickly.

2. A need for continual improvement in the accuracy and relevancy of the data collected.

3. A new program in early childhood education, based on parts of specialties spread throughout the university, never put together before in one critical mass.

4. New program in health education/health promotion in cooperation with the graduate school of public health.

5. New resources in undergraduate program in movement science.

6. Phasing out two doctorate programs that are too small to provide the teaching, research and scholarship required.

It was also recommended that a review and re-orientation of the program in instructional design and technology be done. Modern pedagogy in the future will be technology-based; technology is quickly infusing basic and professional disciplines, teaching methods, and content for instruction. Faculty who are not skilled in the use of technology are putting their students at risk. Students at all levels will use technology in every discipline as teaching tools, as research tools, as learning tools, as independent ways of acquiring knowledge. Faculty will be guides to help students access, evaluate, and critically exam the almost unlimited databases available, rather than being the students' source of knowledge.

Conclusions.

The faculty has some direction now, with a plan to make some areas stronger and gradually eliminate others. With the system of lifetime employment of tenured faculty (somewhat like the German civil service status), it is important to have a plan ready for the day a professor leaves, for that day presents one of the few opportunities for significant change in direction.

Faculty are gradually seeing how the data are used to inform judgements about academic priorities. Since they usually wish to preserve their specialty and see it prosper, they are beginning to change behavior to enhance their program, e.g., by more careful attribution of their time, by more search for grants, by greater faculty productivity.

It is now more open and clear that some programs are more productive than others, and that leads to examining the reasons. In the future it is more likely that decisions will take into account productivity measures as well as quality measures.

There is now clear public information that some programs cost much more than others. It is possible to see that there are often good reasons for this, but sometimes not. Knowing the information allows the faculty to make decisions that are helpful. For example, what can be learned from low cost programs that can be applied elsewhere? What can be done to lower cost without affecting quality? Could more students be admitted or faculty re-assigned to improve the cost ratio? This process encourages the critical examination of our plans. Of course not all programs will be cost-effective, but all can strive to be more efficient. There will always be a need to protect high quality programs, and those of critical need, whatever the cost. Having information about such programs allows one to identify those high quality programs and protect them against across-the-board changes in budget, or general incremental budget increases.

This blueprint allows the possibility of starting critically needed new programs, even with the steady-state (or declining) budgets of the 1990's, by shifting resources from areas identified for closing.

References

Baldridge, J.V., Deal, T. (1983). *The dynamics of organizational change in education.* Berkeley, CA: McCutchan Publishing.

Brathwaite, K. (1990). *The database environment: Concepts and applications.* New York: Van Nostrand Reinhold.

Hills, P.J. (1990). *Information management systems.* New York: Ellis Herwood Books in Information Technology.

Norris, D.M. & Poulton, N.L. (1991). *A guide for new planners.* Ann Arbor, MI: The Society for College and University Planning.

University of Pittsburgh, School of Education. (1986). *Reorganization of the School of Education.* Pittsburgh, PA: Author.

University of Pittsburgh, School of Education. (1990). *Report of the strategic planning committee.* Pittsburgh, PA: Author.

University of Pittsburgh, School of Education. (1991). *School of Education self appraisal.* Pittsburgh, PA: Author.

University of Pittsburgh, School of Education. (1994). *Academic program planning report,* School of Education. Pittsburgh, PA: Author.

University of Pittsburgh. (1976). *The university plan.* Pittsburgh, PA: Author.

University of Pittsburgh. (1978). *University planning policies for the 1980's.* Pittsburgh, PA: Author.

University of Pittsburgh. (1989). *Strategic planning guidelines for the 1990's.* Pittsburgh, PA: Author.

University of Pittsburgh. (1992). *University of Pittsburgh planning and budgeting system (PBS), final draft.* Pittsburgh, PA: Author.